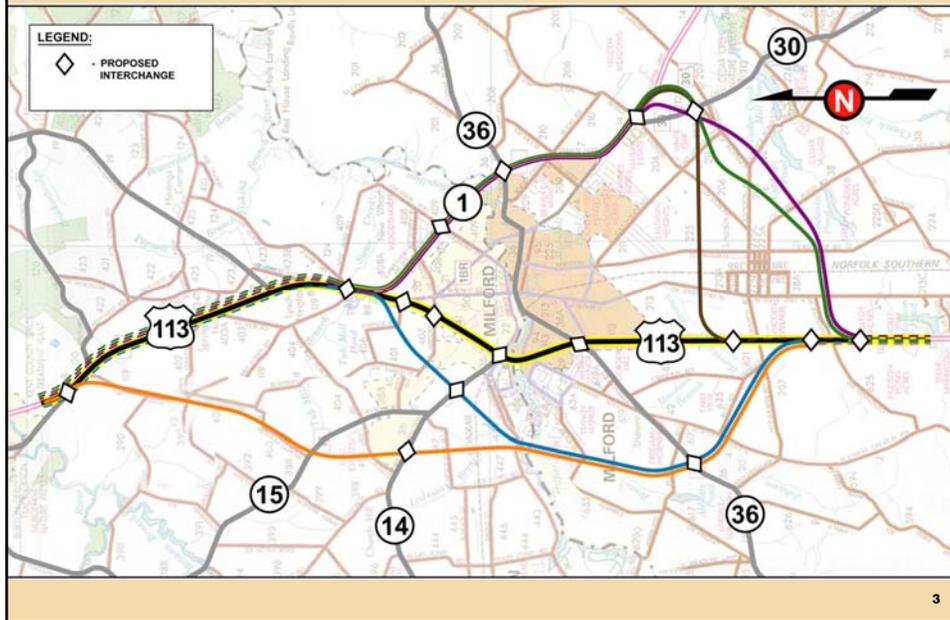


## **Agenda**

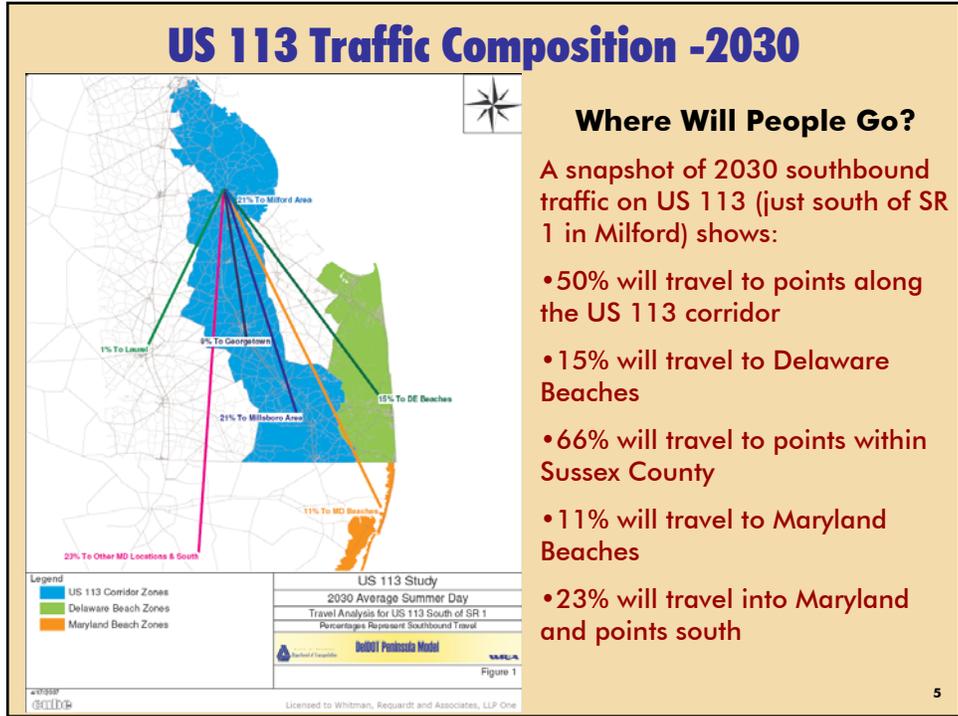
- Introduction
- Alternatives Retained for Detailed Study
  - No-Build
    - Traffic Conditions
    - Safety
  - West Bypass Alternatives
  - On-Alignment Alternative
  - East Bypass Alternatives
- Discussion/Recommendation on a Recommended Preferred Alternative
  - Working Group Guidelines
- Schedule/Next Steps
- Thank You

## Milford Area Alternatives



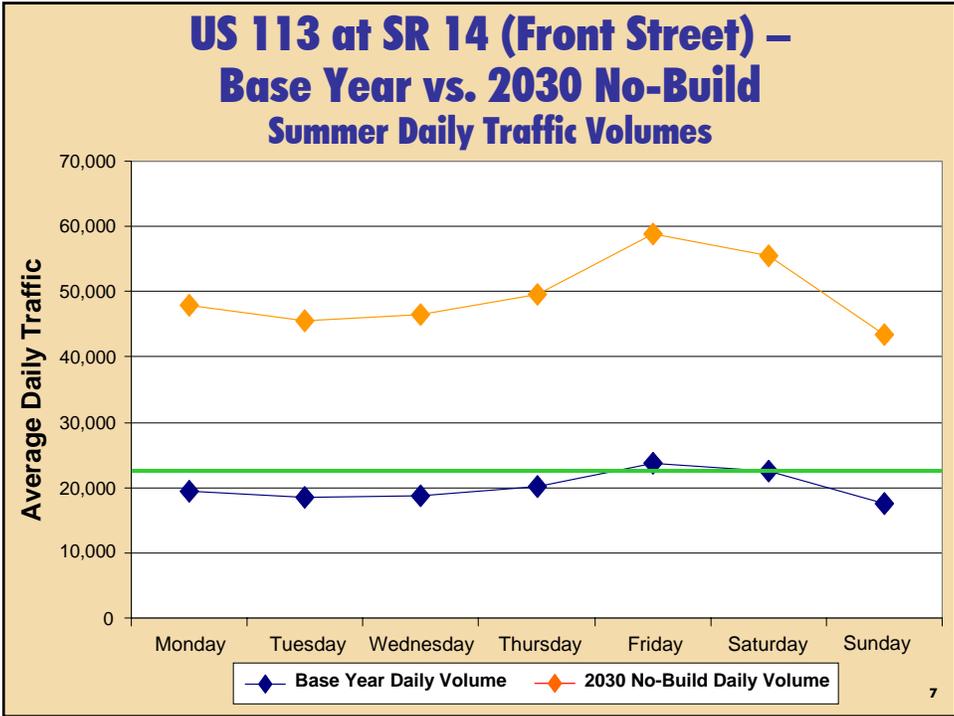
## US 113 Traffic Growth Along US 113 Corridor

- Substantial Growth Expected Along the US 113 Corridor between now and 2030
  - Household Growth = +20,800 Households
  - Employment Growth = +7,400 jobs
- 52% increase in trips going to and from the US 113 Corridor



## US 113 Traffic Future Diversion from SR 1

- Assuming a no-build alternative in all project areas, we do not expect any additional traffic to be diverted from SR 1 in the future (2030).
- Assuming a build alternative along all of US 113, from Milford to Selbyville, about 5,000 vehicles will divert from SR 1 to US 113 on a summer day.
- If only a portion of US 113 is upgraded to limited access, these diversions will be lower.



### US 113 Traffic - Milford Area Unsignalized Intersection Evaluation

**Base Year**

- There are twelve (12) unsignalized approaches to US 113 in the Milford Study Area, all operating acceptably (average delay of 22 seconds to cross or turn onto US 113).
- There are nine (9) unsignalized locations where motorists can turn left from US 113 onto a side street all operating acceptably (average delay of 15 seconds).

**2030 No-Build**

- Six (6) of the twelve unsignalized approaches to US 113 in the Milford Study Area will fail in the peak hour (approximately 2 minutes to cross or turn onto US 113).
- Three (3) of the nine unsignalized locations where motorist can turn left from US 113 onto a side street will fail in the peak hour (more than 2 minutes of delay).

**2030 Build**

- All of the build alternatives would result in lower delay at all of the unsignalized intersections on US 113 in Milford than they experience in the Base Year.

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## US 113 Traffic – Milford Area Signalized Intersection Evaluation

### Base Year

- There are ten (10) signalized intersections along US 113 in the Milford Study Area.
  - Thompsonville Road
  - Warner Road / N Walnut Street
  - Milford Commons / Food Lion
  - Wal-Mart
  - Airport Road / NW 10<sup>th</sup> Street
  - Masten Circle / The Plaza at Milford
  - SR 14 / Front Street
  - Old Shawnee Road
  - SR 36 / Lakeview Avenue
  - Johnson Road / Fitzgeralds Road
- All intersections operate at acceptable Levels of Service (LOS)

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## US 113 Traffic Signalized Intersection Evaluation

### 2030 No-Build

- Six (6) intersections are projected to operate unacceptably in 2030 (LOS E or F).
  - Airport Road / NW 10<sup>th</sup> Street
  - Masten Circle / The Plaza at Milford
  - SR 14 / Front Street
  - Old Shawnee Road
  - SR 36 / Lakeview Avenue
  - Johnson Road / Fitzgeralds Road
- The overall intersection delay at these six (6) signalized intersections is projected to triple.

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## **US 113 Traffic Corridor Travel Times**

- The average travel time along US 113 for a 6.3 mile trip beginning at Tub Mill Pond Road and ending at Clendaniel Pond Road / Haflinger Road is approximately 13 minutes
- Under No-Build conditions, the same trip is projected to take approximately 22 minutes (70% increase).
  - Nearly all of the additional delay can be attributed to increased congestion at the six (6) signalized intersections expected to operate unacceptably in 2030.

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## **What is the recent crash history along US 113?**

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## US 113 Crashes

- Crash data were requested along US 113 / SR 1 beginning south of Frederica to Hudson Pond.
- The data were divided into two sections:
  - South of Frederica to the US 113 / SR 1 split (5 miles)
    - One signalized intersection at Thompsonville Road
    - 16 unsignalized intersections/median crossovers
  - US 113 / SR 1 split to Hudson Pond (7.2 miles)
    - Nine signalized intersections
    - 21 unsignalized intersections/median crossovers
- Three-year study period from January 2004 to December 2006
  - 111 reported crashes north of US 113 / SR 1 split
  - 265 reported crashes in Milford Area

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## US 113 Crashes

### South of Frederica to US 113 / SR 1 split

- Crash data summary – 111 crashes
  - Three (3) crashes involved fatalities
  - 36 crashes (32%) involved personal injury
  - 45 crashes (40%) were rear-end crashes
  - 24 crashes (22%) involved left-turn/cross traffic
  - 24 crashes (22%) occurred at the Thompsonville Road intersection

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## **US 113 Crashes**

### **South of US 113 / SR 1 split to Hudson Pond**

- Crash data summary – 265 crashes
  - Four (4) crashes involved fatalities
  - 95 crashes (36%) involved personal injury
  - 134 crashes (50%) were rear-end crashes
  - 60 crashes (23%) involved left-turn/cross traffic
  - 128 (48%) crashes occurred at signalized intersections

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## **US 113 Crashes**

204 crashes (77%) in the Milford Area were rear-end, left-turn, and angle crashes, types that would likely increase as congestion increases at signalized and unsignalized intersections.

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## US 113 Traffic Milford Area No-Build Alternative

- Does not address anticipated growth in the US 113 corridor
- Six of ten traffic signals in the Milford area will become congested by 2030.
  - Delays
  - Safety
  - Economic issues
  - Air quality
- Compromises safety due to inconsistency with adjacent proposed improvements
  - SR 1 Corridor Capacity Preservation Program to the north – full access control
  - Improvements to US 113 in Maryland to the south – high degree of access control
- Travel time will increase by 70 percent between 2003 and 2030.
- The rapid rate of development will likely preclude any bypass option in the future.

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## Discussion on Recommended Preferred Alternative

- The **No-Build Alternative** does NOT provide a US 113 that accommodates planned economic growth in the Milford Area as well as anticipated growth in local, seasonal, and through traffic. The purpose of the project is to identify, select, and protect a corridor for the future so there is a solution available when transportation improvements are needed.

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## **US 113 Traffic Milford Area No-Build Alternative**

- The Secretary has serious concerns about a No-Build Alternative.
- The future of a No-Build Alternative along US 113 in the Milford Area will likely result in actions to address congestion and safety issues, such as closing crossovers, and prohibiting left turns.

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## **Discussion on Recommended Preferred Alternative**

- In addition to public input, DeIDOT is required by Federal and State regulations, including the National Environmental Policy Act (NEPA), to consider all the consequences associated with the Alternatives Retained for Detailed Study, such as effects on the natural environment and cultural resources, along with socio-economic impacts.

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## Milford Area Alternatives West Bypass (Orange and Blue)

### ■ West Bypass Alternatives (ORANGE and BLUE)

- Significantly greater impacts on higher quality natural environmental resources
  - Highest wetland impacts
  - Highest forestland impacts
  - Potential impact to Federally-listed RTEs
  - No Agency support – Not permissible
- Agricultural land impacts – quantity and quality
- Little public support
- Length of new construction



## Milford Area Alternatives On-Alignment (Yellow)

### ■ On-Alignment Alternative (YELLOW)

- **Fatal flaw for federal funding:** direct, unavoidable impacts to several historic resources.
- No public support – Divides town
- Property and business impacts – constructability/access rights



## Milford Area Alternatives East Bypass

- The **East Bypass Alternatives** (GREEN, PURPLE, and BROWN) have fewer impacts on natural environmental resources than the other Alternatives.



## Milford Area Alternatives East Bypass (Brown)

- **East Bypass Alternative (Brown)**
  - Prior Brown Alternative was modified in an effort to reduce high quality natural resource impacts



## Milford Area Alternatives East Bypass (Brown Modified)

- This project is guided by DelDOT's project development approach that the community deserves and the Project Team should make all alternatives, which meet Project Purpose and Need, the very best that they can be.

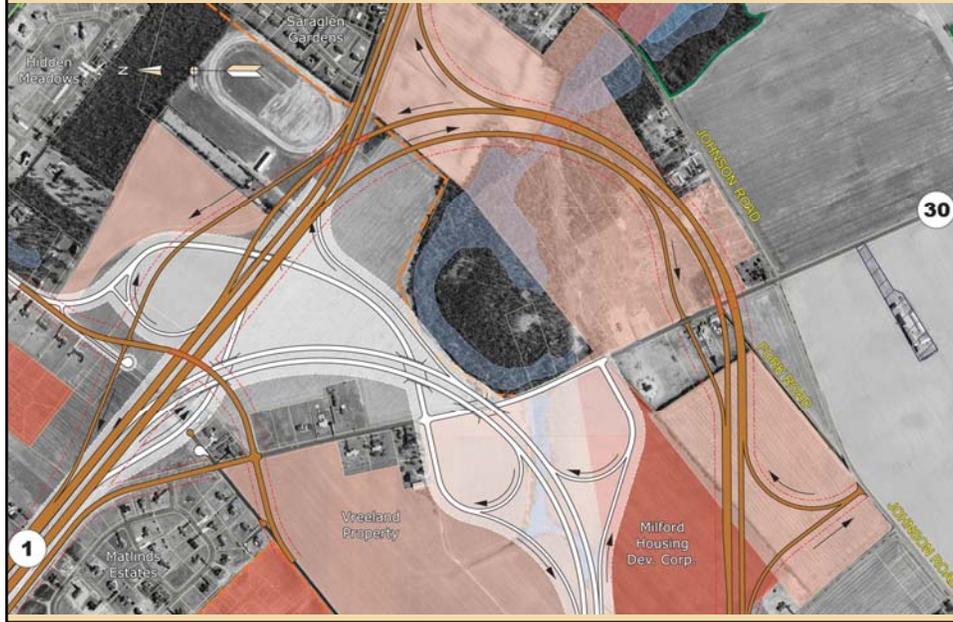
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## Milford Area Alternatives East Bypass (Brown Modified)

- The Brown Alternative was modified as follows:
  - Shifted the US 113 mainline alignment and reconfigured the interchange at SR 1 / US 30 / Johnson Road to reduce wetland impacts and avoid the power substation on Elks Lodge Road.
  - Reduced the new US 113 median from 58' to 12' from north of the Norfolk Southern Railroad to existing US 113.
  - Shifted the US 113 mainline alignment to minimize wetland impacts at Herring Branch.
  - Replaced directional ramps to and from existing US 113 and new US 113 to and from the north, in the Herring Branch area, with interchange ramps at Johnson Road.
  - Provided bridge crossings with 25' clearance over Herring Branch (just east of existing US 113) and two bridge crossings of Herring Branch tributaries/wetlands, i.e. just to east of upland grazing area and Old State Road crossing of tributary.
  - Cul-de-sac Old State Road at Herring Branch to create more of a barrier between Milford and Lincoln, as suggested by the community, in an effort to reduce sprawl.

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## Milford Area Brown Modified



## Milford Area Brown Modified



## Milford Area Brown Modified



## Milford Area Brown Modified



## Modifications to Brown Alternative

- Based on discussions during and since the April 5 agency meeting, the Project Team also developed three options of the Brown Modified Alternative.
  - *Brown Modified 1* – One 2,370-foot structure spanning the entire Herring Branch wetland/forestland area
  - *Brown Modified 2* – One 230-foot structure and one 400-foot structure spanning only the Herring Branch wetland areas
  - *Brown Modified 3* – One 400-foot structure and one 800-foot structure spanning a majority of the Herring Branch wetland/forestland areas

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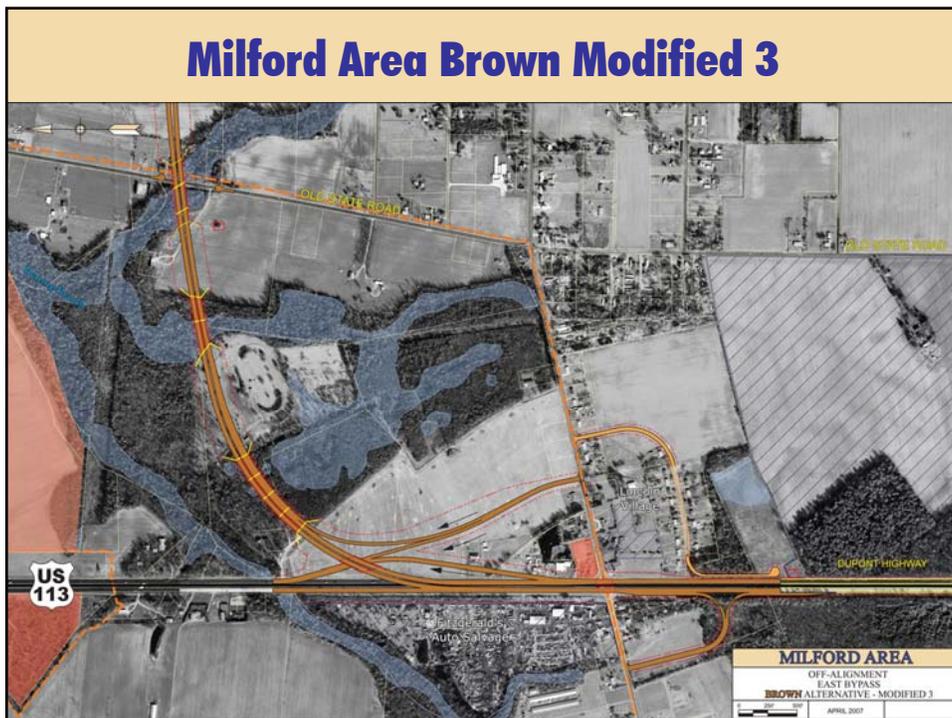
## Milford Area Brown Modified 1



## Milford Area Brown Modified 2



## Milford Area Brown Modified 3



## Milford Area Alternatives East Bypass (Green)

### ■ East Bypass Alternative (Green)

- The Green Alternative was modified, based on discussions with the Resource Agencies during a field view on March 28, 2007, in an effort to reduce high quality natural resource impacts.
- Shifted the US 113 mainline alignment to reconfigure the interchange at SR 1 / SR 30 / Johnson Road



## Milford Area Green Modified



## Milford Area Alternatives East Bypass (Purple)

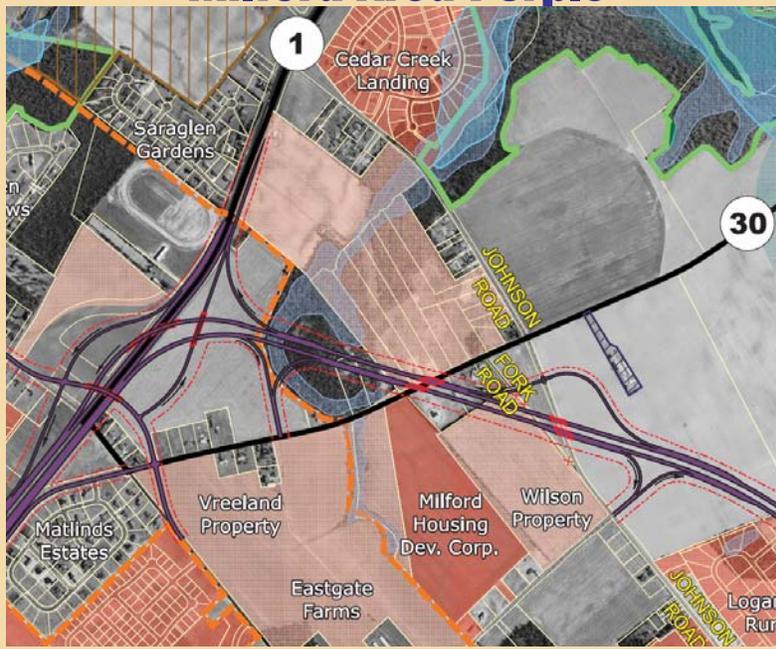
### ■ East Bypass Alternative (Purple)

- The Purple Alternative was not modified since the last working group meeting, March 21, 2007.
- The modifications made to Brown and Green at the SR 1 interchange could not be applied to Purple because of impact to the Cedar Creek Mill Farm barns.



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## Milford Area Purple



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## Green Modified, Purple, and Brown Modified Comparison

	Green Modified	Purple	Brown Modified 1	Brown Modified 2	Brown Modified 3
<b>Natural Resources</b>					
Wetlands (acres)	0.6	1.4	1.7	1.7	1.7
Waters of the US (linear feet)	684	376	586	586	586
Subaqueous lands (linear feet)	684	376	275	275	275
Forest land (acres, based on 2002 land use data)	15	18	22	23	22
Minimum Distance From Ponds	1,700'	550'	4,400'	4,400'	4,400'
<b>Historic Resources</b>					
Number of historic properties within study area	2	3	6	6	6
Number of cemeteries	1	0	0	0	0
<b>Agricultural Resources</b>					
Agricultural preservation easements (permanent)	3	5	3	3	3
(acres within properties)	31	33	12	12	12
<b>Property/Community Impacts</b>					
Properties affected (numbers of)	174	137	187	188	188
Properties affected (total acres)	446	403	462	466	466
Distance from "center" of Lincoln (traffic signal)	3,700'	4,660'	3,150'	3,150'	3,150'
Residences impacted by noise	239	303	233	233	233
<b>Access Rights</b>					
Relocations	29	31	30	31	31
<i>Residential</i>	26	28	25	26	26
<i>Agricultural</i>	1	1	2	2	2
<i>Commercial</i>	2	2	3	3	3
Approved residential lots	31	15	0	0	0
Other (existing vacant lots)	21	9	18	18	18
<b>Cost</b>					
Preliminary anticipated cost range (\$ million)	\$276-338	\$292-356	\$383-469	\$336-427	\$351-438

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## Green Modified, Purple, and Brown Modified Comparison

US 113 - Cost Estimates (\$ Millions)				
	Roadway	Structure	R.O.W.	Total
Green Modified	\$200-\$244	\$32-\$40	\$44-\$54	\$276-\$338
Purple	\$207-\$253	\$35-\$43	\$50-\$60	\$292-\$356
Brown Modified 1	\$253-\$309	\$81-\$99	\$49-\$61	\$383-\$469
Brown Modified 2	\$228-\$298	\$59-\$68	\$49-\$61	\$336-\$427
Brown Modified 3	\$233-\$302	\$69-\$75	\$49-\$61	\$351-\$438

US 113 - Roadway and Structures		
	Total Length (Miles)	Structures (Square Feet)
Green Modified	14.8	169,975
Purple	14.5	183,386
Brown Modified 1	15.8	418,197
Brown Modified 2	15.8	265,624
Brown Modified 3	15.8	316,161

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## **Discussion on Recommended Preferred Alternative Resource Agency Feedback**

- Resource Agency conference call conducted March 26, 2007.
  - Presented Brown Modified concept and potential alignment
- Resource Agency field view conducted March 28, 2007.
  - Reviewed Brown Modified concept and potential alignment
  - Agencies requested that the Project Team determine if interchange configuration at SR 1 / SR 30 can be applied to Green and Purple.
- Resource Agency meeting conducted April 5, 2007.
  - Presented Brown Modified Alternative and reviewed impacts
  - Agencies requested additional data, including a quantitative and qualitative summary of natural resource impacts.
- Resource Agency meeting conducted April 23, 2007.
  - Presented Brown Modified Alternatives and reviewed impacts
    - Revised alignment to avoid potential historical resources
    - Provided displays and summary of impacts for three options
  - Presented and reviewed quantitative and qualitative summary of natural resource impacts as compared to Green Modified and Purple Alternatives.

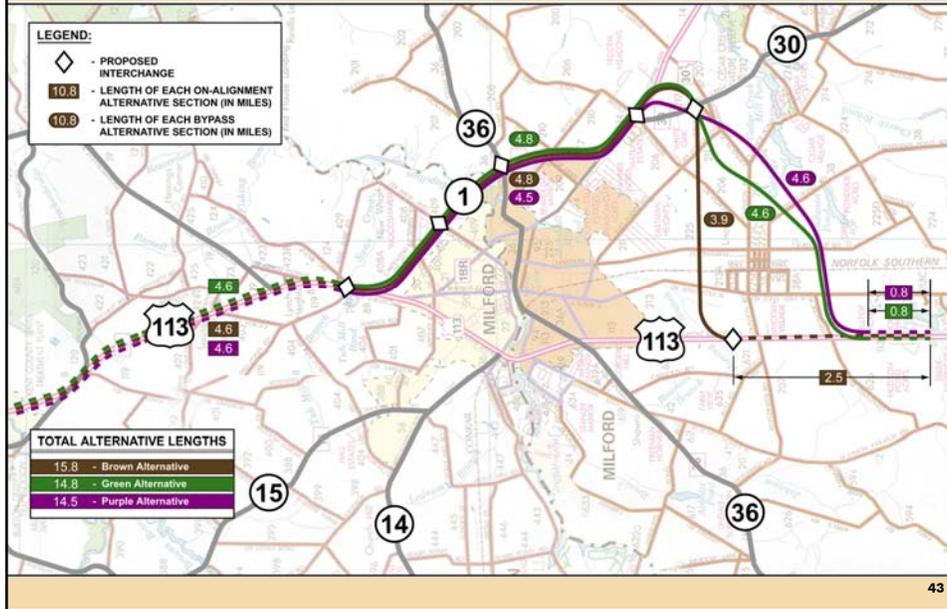
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## **Discussion on Recommended Preferred Alternative**

- The Resource Agencies still believe the Green Modified Alternative is the Least Environmentally Damaging Alternative.
- The Resource Agencies have not yet seen significant enough social or cultural effects to offset the negative environmental impacts of the Brown Modified Alternative.

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## Green Modified, Purple, and Brown Modified Comparison



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## Discussion on Recommended Preferred Alternative

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## Meeting Schedule

Milford Area		Georgetown-South Area	
Agencies	Working Groups/Workshops	Agencies	Working Groups/Workshops
December 12		December 12	
January 11		January 25	
	January 31 WG	February 8	February 6 (Millsboro) and 8 (Georgetown) WGs
		February 22	
	February 26 (Lincoln) and 27 (Milford) workshops to present update and brown alternative		
	March 7 WG		
March 14		March 14	March 12 (Millsboro) and 15 (Georgetown) workshops to discuss east-to-east alternative
	March 21 WG		March 27 (Millsboro) and 29 (Georgetown) WGs
April 5		April 5	April 19 (Georgetown)
April 23		April 23	
	April 25 WG		May 1 Millsboro WG and May 3 Georgetown WG
		May 10	May 29 (Millsboro) and 31 (Georgetown) WGs
		June 20	June 26 (Millsboro) and 28 (Georgetown) WGs
	Fall Public Hearings - TBD		Winter Public Hearings - TBD

*INITIATE recommended preferred alternative discussion*  
*CONTINUE recommended preferred alternative discussion*  
*END recommended preferred alternative discussion*

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## Next Steps - Milford

- Elected Officials Briefing                      May 3
- Recommended Preferred Alternative                      May
- DEIS Public Hearings                      Fall 2007

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## **THANK YOU**

**We would like to thank all the members of the Milford Area Working Group for their hard work and dedication during the past three years.**